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(54) Title: METHODS, APPARATUS, AND SYSTEMS FOR STORING, RETRIEVING AND PLAYING MULTIMEDIA DATA

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(57) Abstract: Various embodiments of the invention provide increased speed and decreased computer processing for playing and navigating multimedia content by using two types of data objects for displaying the multimedia content. The data object type includes rendered multimedia content data. The second data object type provides semantic content corresponding to the rendered multimedia content. The storage medium in which these two types of data objects are contained is referred to as a rendered cache. The semantic content can include locations, sizes, shapes, and target universal resource identifiers of hyperlinks, multimedia element timing, and other content play instructions. The very fast play of content stored in the rendered cache is due to the elimination of the steps of laying out the content, rendering the content, and generating the semantic representation of the content. These steps are required each time the content is played after retrieval from a conventional cache. The only steps required for playing content from the rendered cache are to read the rendered content, read the semantic content, restore the semantic representation, and play the content. A traditional web browser visiting a web site that resides in a rendered cache provides an almost instantaneous display of the web site. The caching mechanism provided by various embodiments of the invention is independent of content file format and the stored semantic content file format. As long as a client application, such as a content browser, can recognize and play the multimedia content and recognize and interpret the semantic content, the application can realize the benefits provided by the rendered cache.